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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,390	12/04/2000	Koji Takahara	0828.64986	6429

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GREER, BURNS & CRAIN
300 S WACKER DR
25TH FLOOR
CHICAGO, IL 60606

EXAMINER

ROCHE, TRENTON J

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 09/16/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

pre

Office Action Summary

Application No.

09/729,390

Applicant(s)

TAKAHARA ET AL.

Examiner

Trent J Roche

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-12 have been examined.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/729,390, filed on December 4, 2000.

Drawings

3. New corrected drawings are required in this application because the drawings are on an improper page size. Please see the Office of Initial Patent Examination sheet enclosed. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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The use of the word “means” should be avoided in the abstract, as stated on lines 8 and 10.

5. Claim 2 is objected to because of the following informalities: Claim seems to be grammatically incorrect. Appropriate correction is required. For purposes of examination this is interpreted to read “The information processing apparatus according to claim 1, further comprising area integrating means for integrating specified areas ensured in the case of a plurality of different dynamic variables specified by the dynamic variable specifying means being developed into the memory.”

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1-5, 8 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent 6,110,227 to Marcelais et al.

Regarding claim 1:

Marcelais et al teach:

- an information processing apparatus (“a conventional personal computer...including a processing unit...” in col. 5 lines 48-49)
- translating a source file including a dynamic variable into an object file by a compiling process and converting the object file into an executable load module by a linking process

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(“A compiler...then converts the source code...into machine-readable object code, which is stored in one or more files...A linker...processes a file to produce a binary image...” in col. 4 lines 30-36)

- dynamic variable specifying means for specifying a target dynamic variable from the source file (“the variable being identified by a variable symbol in the file...” in col. 18 lines 43-44)
- area specifying means for specifying areas ensured in the case of a dynamic variable specified by the dynamic variable specifying means being developed into a memory at the time of executing the load module (“identifies an initializer-list section, the initializer-list section storing the initializer symbol...” in col. 18 lines 62-64)
- initializing means for initializing areas specified by the area specifying means to a predetermined value (“an initializer is processed...to assign a default value of a variable.” in col. 3 lines 45-47)

Regarding claim 2:

The rejection of claim 1 is incorporated, and further, Marcelais et al teach an area integrating means for integrating specified areas ensured in the case of a plurality of different dynamic variables specified by the dynamic variable specifying means being developed into the memory. (“an uninitialized data area is created in the temporary memory of the computer.” in col. 3 lines 54-55)

Regarding claim 3:

The rejection of claim 1 is incorporated, and further, Marcelais et al teach a variable integrating means for integrating dynamic variables dispersed in one or more object files integrated by the linking process (“A ‘symbol table’ is broadly defined as a list of...variables, routines, and so on. A

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symbol table is stored as part of the object file...so that the linker can resolve references between sections of the object file and separately compiled modules or files.” in col. 4 lines 45-51)

Regarding claim 4:

The rejection of claim 1 is incorporated, and further, Marcelais et al teach allocating a target dynamic variable to a new data section (“an uninitialized data area is created in the temporary memory of the computer.” in col. 3 lines 54-55) wherein an initialization means is performed on a dynamic variable in the data section (“This temporary memory is then initialized by the appropriate initializers.” in col. 3 lines 55-56)

Regarding claim 5:

The rejection of claim 4 is incorporated, and further, Marcelais et al teach when a plurality of object files are linked to generate a load module the initializing means does not perform an initializing process on a dynamic variable (“A linker...processes a file to produce a binary image...a linker involves linking object files together...” in col. 4 lines 35-37), and further, (“When a...compiler encounters...an uninitialized global variable...the compiler generates an additional function called an ‘initializer,’ that will be responsible for initializing the global variable upon start-up of the binary image.” in col. 4 lines 55-60. The initialization takes place when the program is run, not when the object files are linked.)

Regarding claim 8:

The rejection of claim 1 is incorporated, and further, Marcelais et al teach an initialized variable specifying means for specifying a dynamic variable on which the initializing process is performed

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(“When a...compiler encounters...an uninitialized global variable...the compiler generates an additional function called an ‘initializer,’ that will be responsible for initializing the global variable upon start-up of the binary image.” in col. 4 lines 55-60)

Regarding claim 11:

Marcelais et al teach:

- a computer-readable record medium recording a computer program (“a computer readable medium having stored thereon computer-executable instructions...” in col. 19 lines 42-43)
- translating a source file including a dynamic variable into an object file by a compiling process and converting the object file into an executable load module by a linking process (“A compiler...then converts the source code...into machine-readable object code, which is stored in one or more files...A linker...processes a file to produce a binary image...” in col. 4 lines 30-36)
- dynamic variable specifying means for specifying a target dynamic variable from the source file (“the variable being identified by a variable symbol in the file...” in col. 18 lines 43-44)
- area specifying means for specifying areas ensured in the case of a dynamic variable specified by the dynamic variable specifying means being developed into a memory at the time of executing the load module (“identifies an initializer-list section, the initializer-list section storing the initializer symbol...” in col. 18 lines 62-64)
- initializing means for initializing areas specified by the area specifying means to a predetermined value (“an initializer is processed...to assign a default value of a variable.” in col. 3 lines 45-47)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,110,227 to Marcelais et al in view of U.S. Patent 6,219,834 to Soroker et al.

Regarding claim 6:

The rejection of claim 1 is incorporated, and further, Marcelais et al do not disclose an initial-value entering means used by the initializer before a compiling process. Soroker et al disclose in an analogous compiler system an initial-value entering means used by the initializer before a compiling process ("the...compiler system receives an input program...which contain...at least one configuration file." in col. 3 lines 6-8 and further, "The configuration file includes such information as...variable assignments..." in col. 4 lines 4-8. The initial values are stored in the configuration file, which exists before a compilation process). It would have been obvious to someone of ordinary skill in the art at the time the invention was made to use the variable initialization process of Soroker et al with the pre-processing system of Marcelais et al, as this would give a developer greater control in debugging a computer program in the system disclosed by Marcelais et al, as the developer would be able to specify initialization data.

Regarding claim 7:

The rejection of claim 1 is incorporated, and further, Marcelais et al disclose an initialization means before execution of the load module ("an initializer is pre-processed after compilation of the source code, but prior to linking of object and/or library files." in col. 7 lines 18-20). Marcelais et al do not disclose an initial-value entering means. Soroker et al disclose an initial-value entering means. Note the rejection regarding claim 6.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,110,227 to Marcelais et al in view of U.S. Patent 6,523,097 to Liedtke et al.

Regarding claim 9:

The rejection of claim 1 is incorporated, and further, Marcelais et al do not disclose error informing means for informing of an error in the case of a dynamic variable which holds an initial value being referred to at the time of execution of a load module. Liedtke et al disclose in an analogous variable initialization system an error informing means for informing of an error in the case of a dynamic variable which holds an initial value being referred to at the time of execution of a load module ("For detecting uninitialized variables, a computer processing system initializes all variables upon creation with the unvalued. The reading of such a variable prior to writing a value into it raises an exception." in col. 5 lines 22-25) It would have been obvious to someone of ordinary skill in the art at the time the invention was made to use the error informing method of Liedtke et al in the variable initialization system of Marcelais et al, as this would alert the developer of existing errors in the program code which could cause undesirable program operation in the computer system disclosed by Marcelais et al.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,110,227 to Marcelais et al in view of U.S. Patent 6,523,097 to Liedtke et al, and further in view of U.S. Patent 6,085,029 to Kolawa et al.

Regarding claim 10:

The rejection of claim 9 is incorporated, and further, Marcelais et al disclose an initializing means for initializing all areas in a memory ensured by a memory ensuring means to a predetermined value (Note rejection of claim 1). Further, Liedtke et al disclose an error informing means in the case of an array holding the initial value being referred to (Note rejection of claim 9. An array is a plurality of variables). However, neither Marcelais et al nor Liedtke et al disclose a memory ensuring means for ensuring memory areas being a predetermined number more than the number of elements of an array declared in source code if the dynamic variable is an array. Kolawa et al disclose in an analogous debugging computer system a memory ensuring means as claimed ("For arrays, the array variable and its size must be declared to the error checking engine. For each write operation to that array, the error-checking engine must check if the index into the array is valid." in col. 9 line 65 to col. 10 line 2). It would have been obvious to someone of ordinary skill in the art at the time the invention was made to use the memory ensuring means of Kolawa et al with the variable initialization system of Marcelais et al, as this would ensure that the variables being initialized are all within available memory space of the system disclosed by Marcelais et al.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,110,227 to Marcelais et al in view of U.S. Patent 6,085,029 to Kolawa et al.

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Regarding claim 12:

Marcelais et al teach:

- an information processing apparatus (“a conventional personal computer...including a processing unit...” in col. 5 lines 48-49)
- translating a source file into an object file by a compiling process and converting the object file into an executable load module by a linking process (“A compiler...then converts the source code...into machine-readable object code, which is stored in one or more files...A linker...processes a file to produce a binary image...” in col. 4 lines 30-36)
- specifying means for specifying a target from the source file (“being identified by a variable symbol in the file...” in col. 18 lines 43-44)
- initializing means for initializing areas ensured by the area ensuring means to a predetermined value (“all global variables...are set to a default value upon start-up...” in col. 4 lines 3-4)

Marcelais et al do not disclose an area ensuring means for ensuring, at the time of executing the load module, areas in a memory being a predetermined number of bytes more than areas declared in an array specified by the array specifying means, nor discloses the use of an array. Kolawa et al disclose in an analogous debugging computer system a memory ensuring means for arrays as claimed (“For arrays, the array variable and its size must be declared to the error checking engine. For each write operation to that array, the error-checking engine must check if the index into the array is valid.” in col. 9 line 65 to col. 10 line 2). It would have been obvious to someone of ordinary skill in the art at the time the invention was made to use the memory ensuring means of Kolawa et al with the

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variable initialization system of Marcelais et al, as this would ensure that the variables being initialized are all within available memory space of the system disclosed by Marcelais et al.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trent J Roche whose telephone number is (703)305-4627. The examiner can normally be reached on Monday-Friday, 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Trent J Roche
Examiner
Art Unit 2124

TJR

Kakali Chaki

**KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100**